IN THE CLAIMS:

1. (Currently amended) An environmentally benign process for the simultaneous preparation of the nanocrystalline anatase titanium dioxide powder having particle size in the range of 1 to 5 nm and hydrazine monohydrochloride, said process comprising the steps of:

(i.) adding hydrazine monohydrate solution dropwise to an acidic aqueous solution of titanium tetra chloride at temperature in the range of 20 to 40°C with constant stirring to form precipitate,

(ii.) filtering the precipitate of step (i) to obtain titanium dioxide having particle size in the range of 1 to 5 nm and optionally freeze drying and washing the filtrate to obtain hydrazine monohydrochloride.

2. (Previously presented) The process as claimed in claim1, wherein in step (i) the acidic aqueous solution of titanium tetrachloride contains $TiCl_4$ in the range of 5 to 40% v/v.

3. (Previously presented) The process as claimed in claim 1, wherein in step (i), the hydrazine monohydrate solution contains hydrazine monohydrate in the range of 10 to 99 % v/v.

4. (Previously presented) The process as claimed in claim 1, wherein in step (i) the hydrazine monohydrate solution contains 99% v/v hydrazine monohydrate.

5. (Previously presented) The process as claimed in claim 1, wherein the temperature is in the range of 20 to 40°C.

6. (Previously presented) The process as claimed in claim 1, wherein in step (i) the pH of the mixture of hydrazine monohydrate solution and acidic aqueous solution of titanium tetrachloride is in the range of 7 to 8.

7. (Previously presented) The process as claimed in claim 1, wherein step (i) is carried out in nitrogen atmosphere.

8. (Previously presented) The process as claimed in claim 1, wherein the anatase titanium dioxide nanoparticles having a BET surface area in the range of 200 - 250 m^2/gm are obtained.

9. (Original) The process as claimed in claim 1, wherein hydrazine monohydrochloride obtained by freeze drying the filtrate and washing the filtrate with water at a temperature in the range of -60 to -40° C.

10. (Previously presented) The process as claimed in claim 1, wherein the yield of anatase titanium dioxide and hydrazine monohydrochloride is above 95%.

11. (Original) Nanocrystalline anatase titanium dioxide powder obtained by the process as claimed in claim 1, wherein particle size of the nanocrystalline titanium dioxide is in the range of 1 to 5 nm.

12. (Original) Nanocrystalline anatase titanium dioxide powder obtained by the process as claimed in claim 1, wherein BET surface area of nanocrystalline anatase titanium dioxide powder is in the range of 200 - 250m^2/gm.